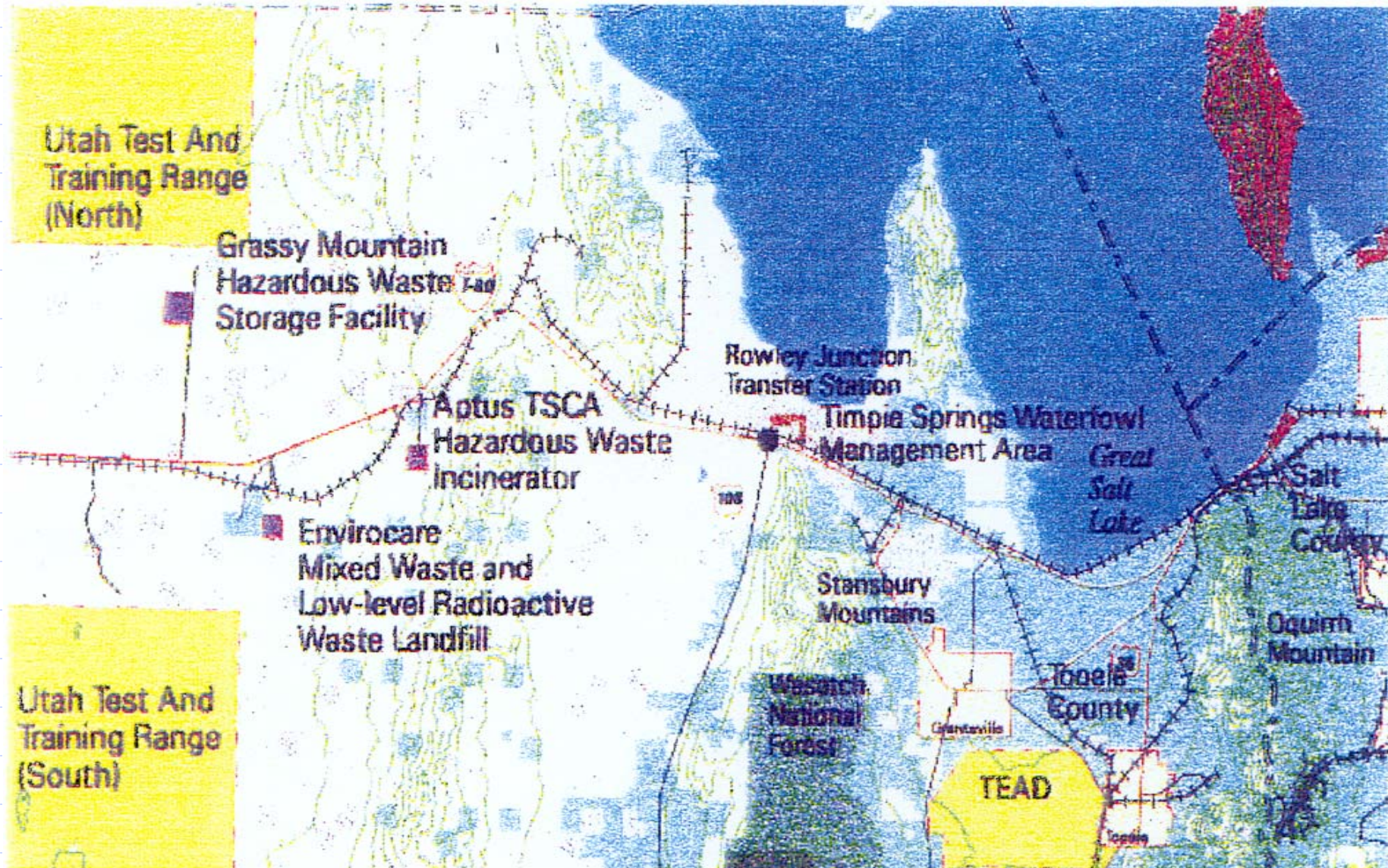




**Bill Sinclair, Director**  
**Division of Radiation Control**  
**Utah Department of Environmental Quality**  
**(801)-536-4255**  
**[bsinclair@utah.gov](mailto:bsinclair@utah.gov)**

# Briefing on Low-Level Radioactive Waste – Waste Policy

- ◆ Late 1980's - Utah experienced an explosion of commercial hazardous and radioactive waste facility applications or inquiries
- ◆ As a result, a "waste policy" was established through legislative actions
- ◆ 5 existing or proposed waste facilities grandfathered:
  - ◆ Grassy Mountain (landfill) Aragonite (incinerator)
  - ◆ Envirocare (landfill) Clive (incinerator)
  - ◆ East Carbon [ECDC] (landfill)

[illegible]



# Briefing on Low-Level Radioactive Waste – Waste Policy

- ◆ Discussions by the Governor/Legislature centered on the key issues of Utah as a "target" for dumping or could this be an economic opportunity if managed properly

# Briefing on Low-Level Radioactive Waste – Waste Policy

- \* Added requirements for a carefully crafted process for a new facility or expansion of existing (grand fathered) facilities including:
  - Siting                      DEQ Actions
  - Licensing                ⇒          (technical review)
  - County, legislative, gubernatorial approval     ⇒  
Public policy question
- \* Disposal fees initiated to fund oversight of waste facilities by DEQ
- \* Application for B/C license = new application

# Briefing on Low-Level Radioactive Waste – Radioactive Waste Classifications

- ◆ High Level radioactive waste - spent fuel - regulated by the Federal government - may eventually be sent to Yucca Mountain, Nevada
- ◆ Mill tailings - waste from processing of uranium ore - also called "11e.(2)" - regulated by the Federal government or the States
- ◆ NARM/NORM - waste from naturally-occurring or accelerator produced material - regulated by the States

# Briefing on Low-Level Radioactive Waste – Radioactive Waste Classifications

- ◆ Mixed Waste - radioactive waste with a chemical component (classified as hazardous waste) - regulated by the Federal government or States, shared regulatory responsibility between radiation and hazardous waste programs
- ◆ Transuranic Waste - waste generated from manmade radionuclides - regulated by the Federal government - this material is generated at Department of Energy sites and disposed of at the Waste Isolation Pilot Project (WIPP)

# Briefing on Low-Level Radioactive Waste – Waste Classifications

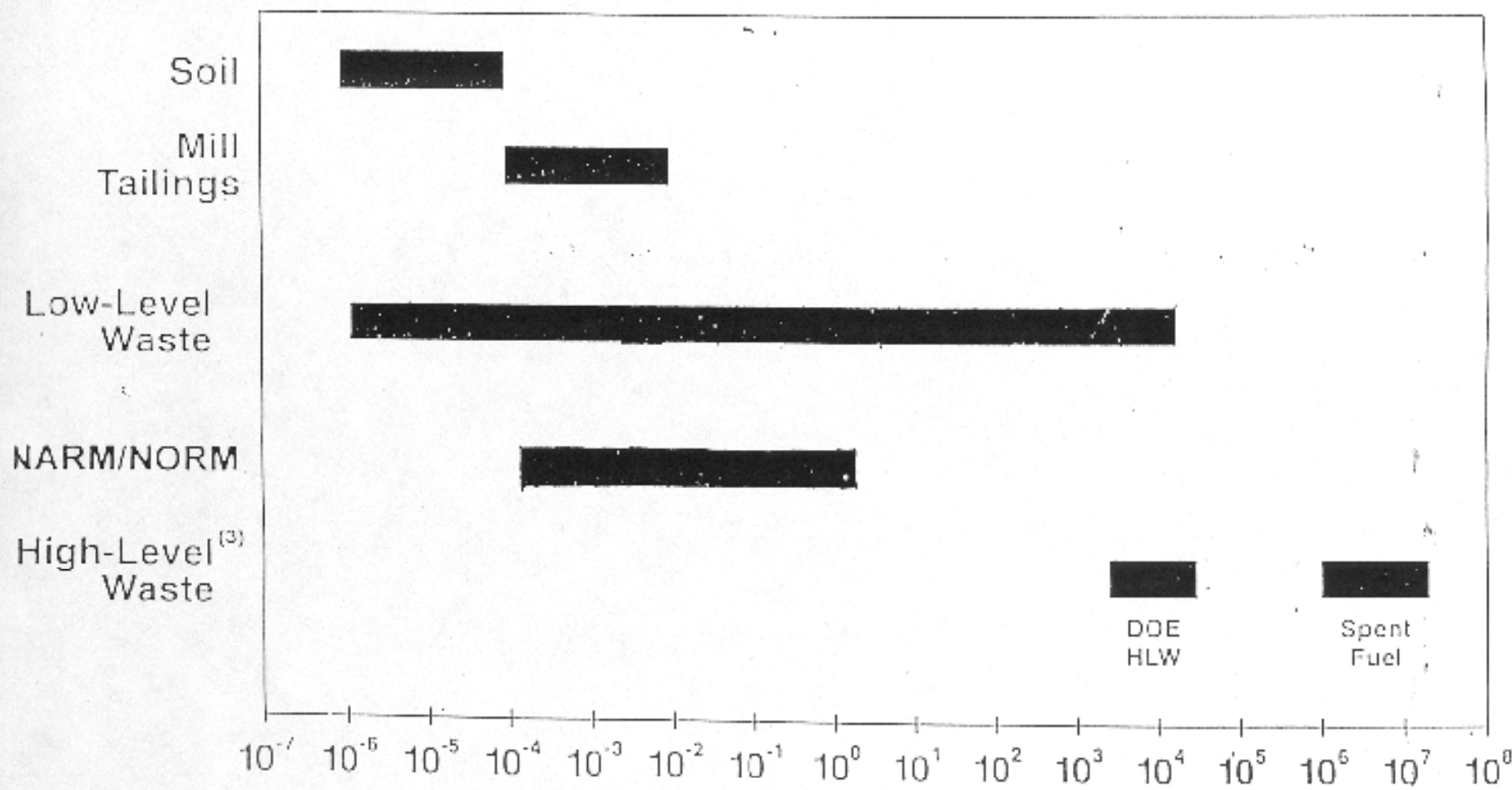
◆ Class A Waste  
contact handled  
less radioactive  
less hazard  
large in volume  
removed from  
containers  
variety of  
generators

◆ Class B and C  
remotely handled  
more radioactive  
more hazard  
small in volume  
containerized  
nuclear power plant  
waste



# Radioactive Waste

## Relative Radioactivity (Curies / cubic meter)



<sup>(2)</sup> NUREG-1543 Draft EIS for Shieldalloy Metallurgical Corp.

<sup>(3)</sup> DOE Integrated Data Base Report, 1995. p219. DOE/RW-0006, Rev. 12, 1995.

<sup>(4)</sup> DOE Integrated Data Base, Table 4-22.

# Briefing on Low-Level Radioactive Waste –Facilities handling Class B/C Low-Level Waste

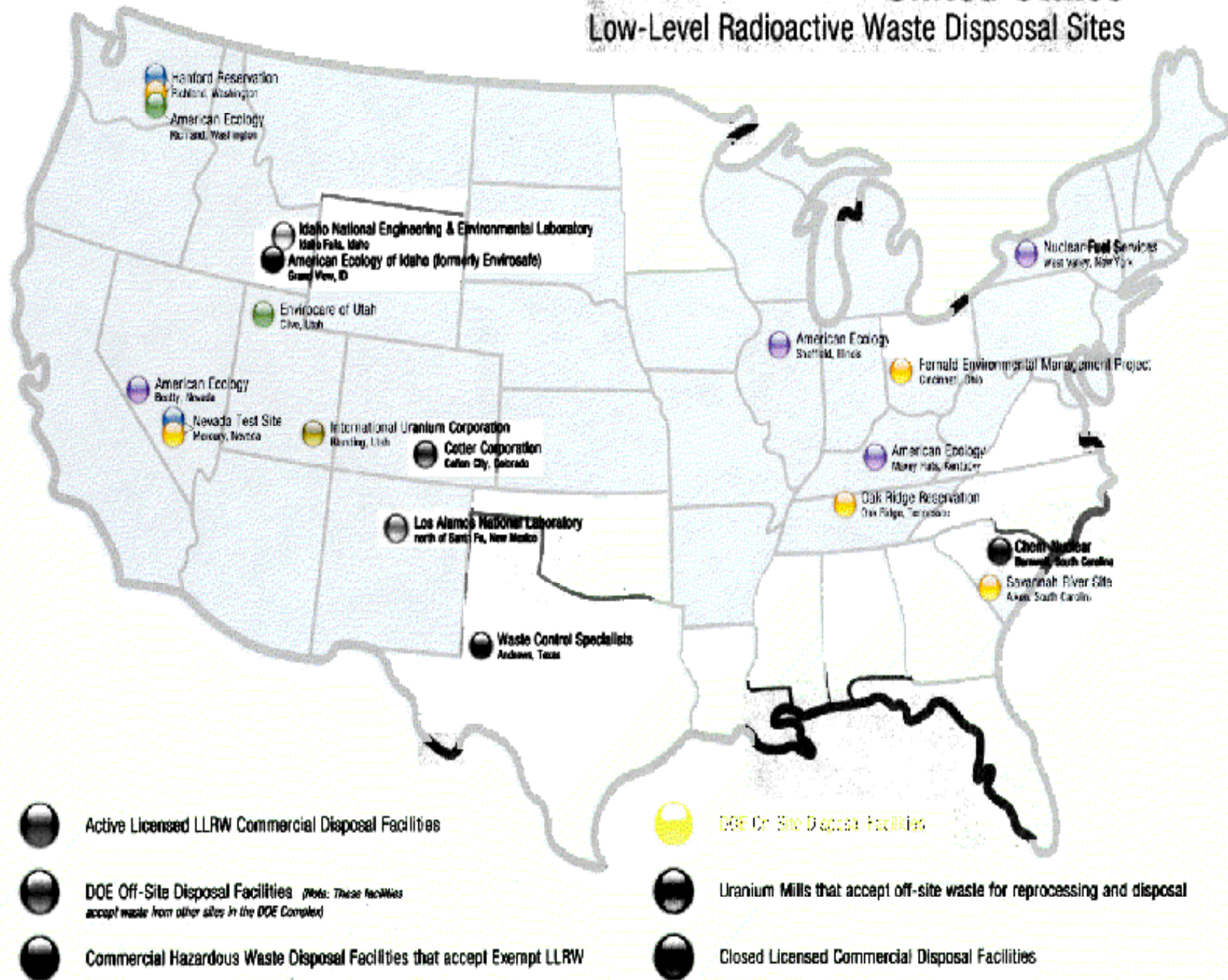
- ◆ U.S. Ecology - Richland, Washington - services the Northwest and Rocky Mountain Compacts (states of Alaska, Hawaii, Oregon, Washington, Idaho, Montana, Wyoming, Utah, Colorado, New Mexico, Nevada)
- ◆ Duratek - Barnwell, South Carolina - services the Atlantic Compact (South Carolina, New Jersey, Connecticut) - is currently still servicing all remaining states on a case by case basis - by 2008, will only service the Atlantic Compact states

# Briefing on Low-Level Radioactive Waste –Facilities proposing to handle Class B/C waste

- ◆ Envirocare - Clive, Tooele County, Utah  
License approved by DEQ, legislature and governor have to decide if submitted for approval

# United States

## Low-Level Radioactive Waste Disposal Sites



This map does not include active or closed uranium/thorium (radioactive) mill tailings disposal facilities in four additional states



PROPOSED  
CLASS  
A, B, & C  
CONTAINERIZED  
WASTE AREA

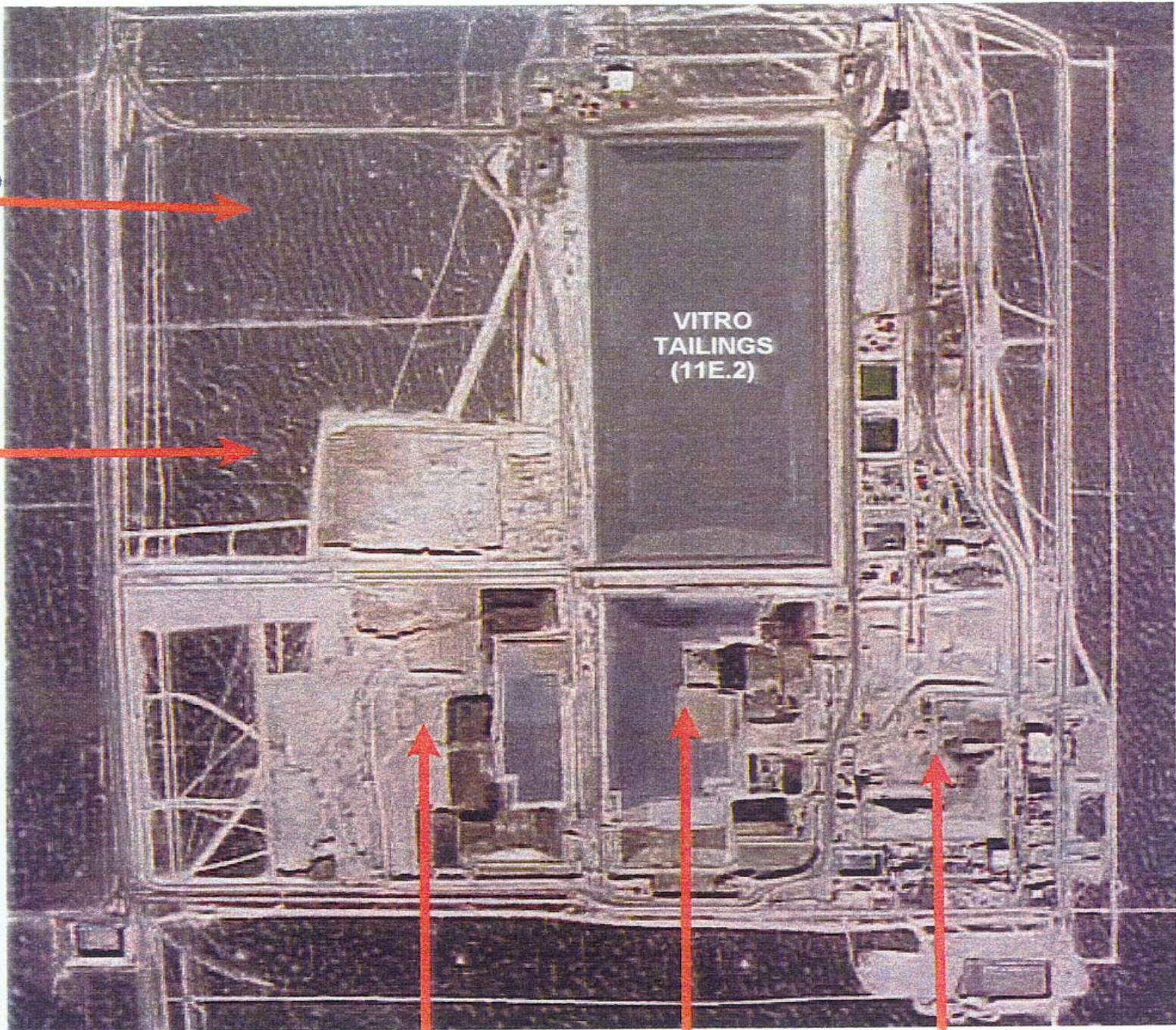
CLASS  
A/LLRW  
NORM AREA

VITRO  
TAILINGS  
(11E.2)

EXIS'NNG IIE.2 DISPOSAL CELL

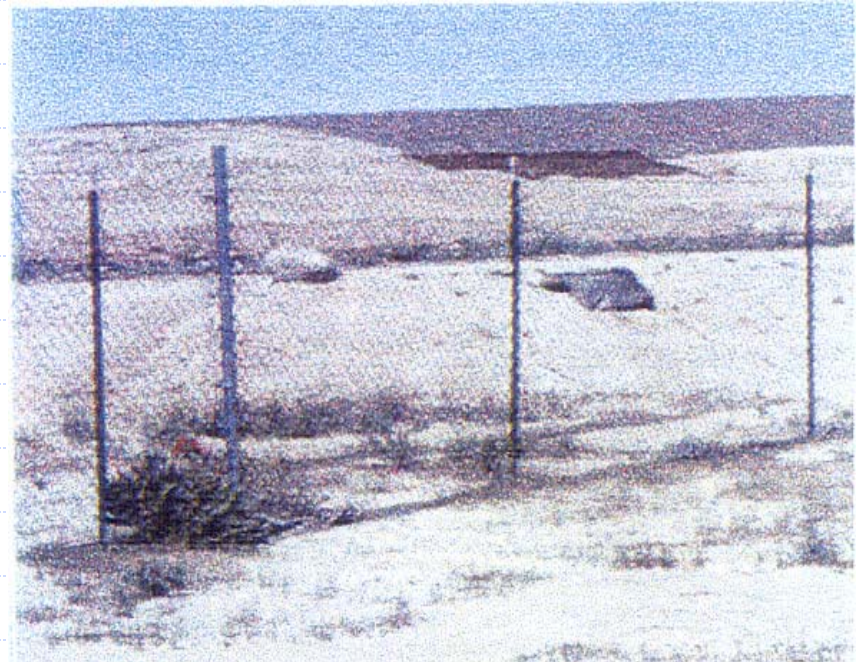
EXISTING CLASS A LLRW IN NORM CELL

MIXED WASTE





# Briefing on Low-Level Radioactive Waste – Bulk Class A Disposal - Envirocare



# Briefing on Low-Level Radioactive Waste – Containerized Class A Disposal - Envirocare





# Briefing on Low-Level Radioactive Waste – Containerized Class A Disposal - Envirocare



# Briefing on Low-Level Radioactive Waste – Containerized Class A Disposal - Envirocare



# Briefing on Low-Level Radioactive Waste – BC Waste Disposal – Barnwell, SC





# Briefing on Low-Level Radioactive Waste – BC Waste Disposal – Barnwell, SC

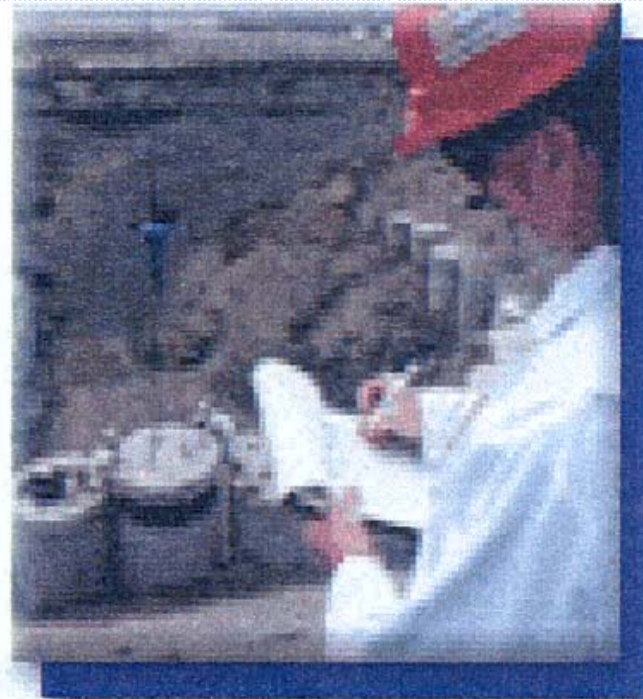
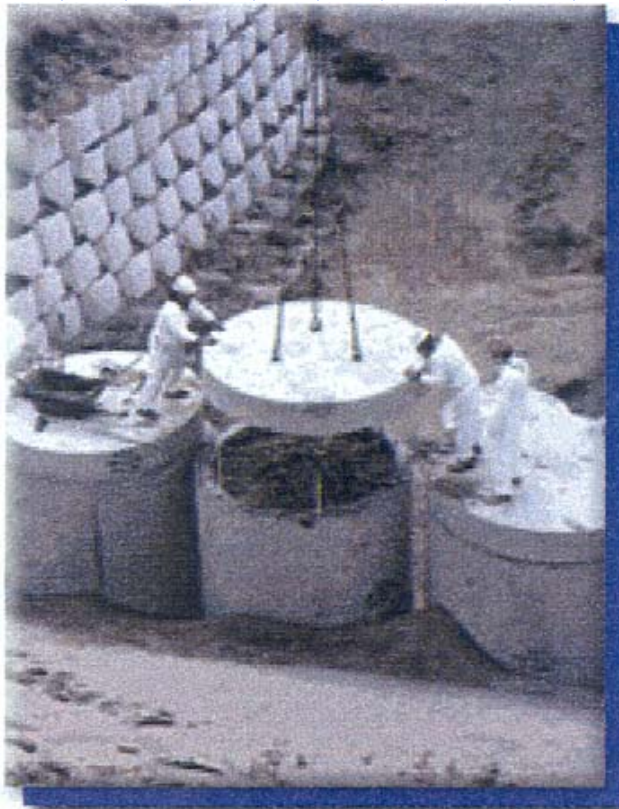


# Briefing on Low-Level Radioactive Waste – BC Waste Disposal – Barnwell, SC





# Briefing on Low-Level Radioactive Waste – BC Waste Disposal – Richland, WA

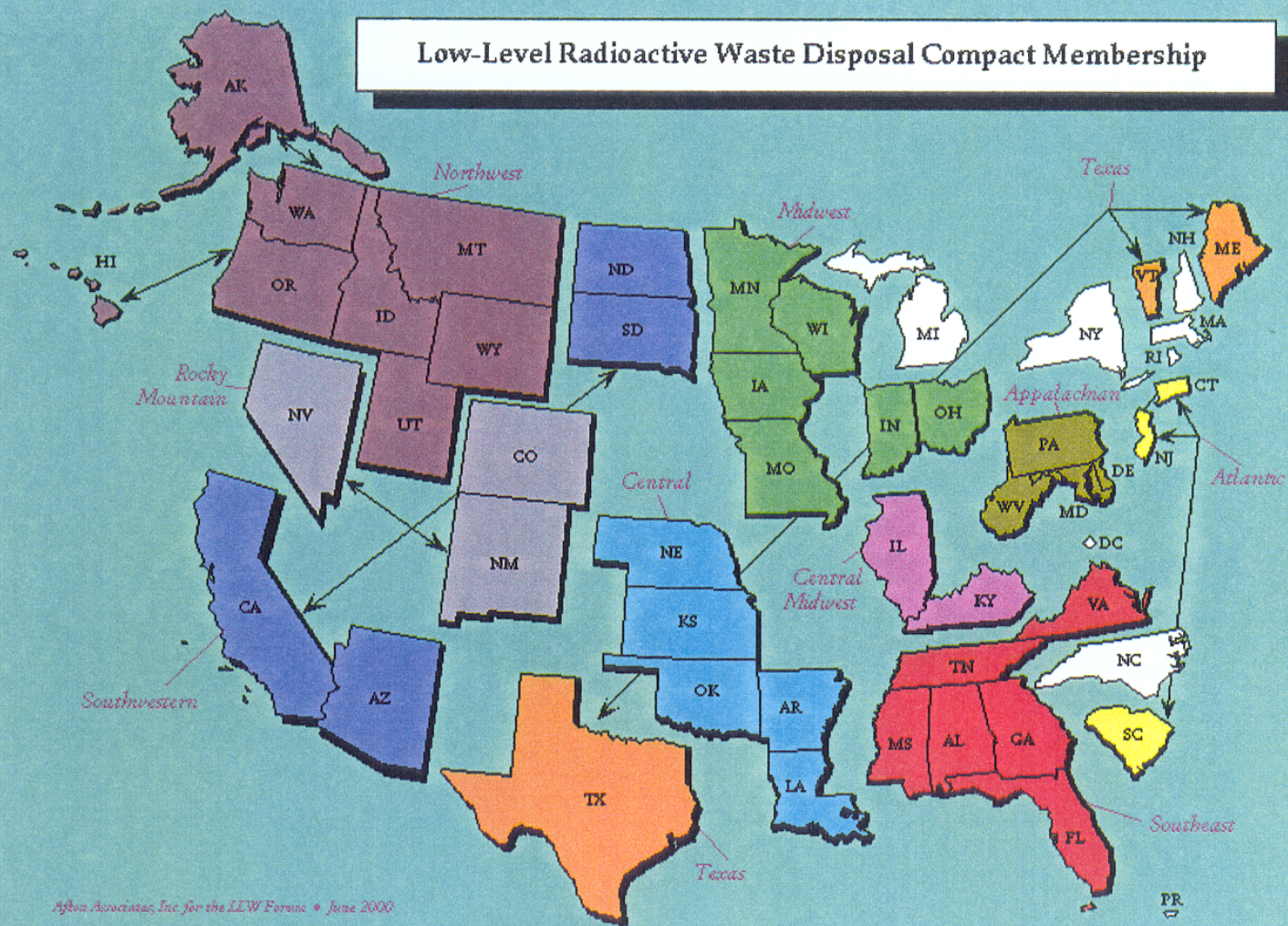


# Briefing on Low-Level Radioactive Waste – Low Level Waste Policy Act

- ◆ Designed to promote new facilities
- ◆ Compacts amongst States were formed, each given the challenge of locating a regional facility in a host state
- ◆ Utah joined the Northwest Compact in the early 1980s
- ◆ To date, no new sites have been developed within the Compact process



## Low-Level Radioactive Waste Disposal Compact Membership



Aflon Associates, Inc. for the LLW Forum • June 2000



# Briefing on Low-Level Radioactive Waste – Low Level Waste Policy Act

- ◆ Envirocare operates in the Northwest Compact with the understanding of “no competition” with the existing regional facility in Washington (will not take low-level wastes from Northwest Compact member states)

# Briefing on Low-Level Radioactive Waste

## – Financial Assurance

- ◆ Envirocare is responsible for closing the site and monitoring it for 100 years after closure
- ◆ In the event Envirocare is unable to close, financial assurance has been established which would enable a third party contractor to close the site and monitor for 100 years
- ◆ Monies for closure/post closure guaranteed by irrevocable letter of credit backed by Wells Fargo Bank

# Briefing on Low-Level Radioactive Waste – Financial Assurance

## ◆ Funds available include:

DRC letter of credit: \$21,327,294.00

DSHW letter of credit: \$11,329,515.56

NRC letter of credit: \$4,834,760.58

Total funds: \$37,491,570.14

## ◆ The above funds are for closure of the site and post closure and minor maintenance for 100 years following closure

# Briefing on Low-Level Radioactive Waste

## – Financial Assurance

- ◆ In 2001, the Utah legislature established the “Perpetual Care and Maintenance Fund”
- ◆ Purpose was to have monies available for any site needs for the time period following the 100 year post closure monitoring period
- ◆ Every July 1<sup>st</sup>, a fee of \$400,000 must be added to the fund by Envirocare
- ◆ Currently, the fund has received \$400,000



# Briefing on proposal by Envirocare of Utah Inc. to dispose of Class B and C Low-Level Radioactive Waste – Policy Questions

- ◆ Future ownership of land
- ◆ Perpetual Care Fund Adequacy
- ◆ Impact on National facility siting process
- ◆ Fees and Taxes:
  - \*Fees cover cost of appropriate oversight by DEQ
  - \*Taxes benefit state revenues

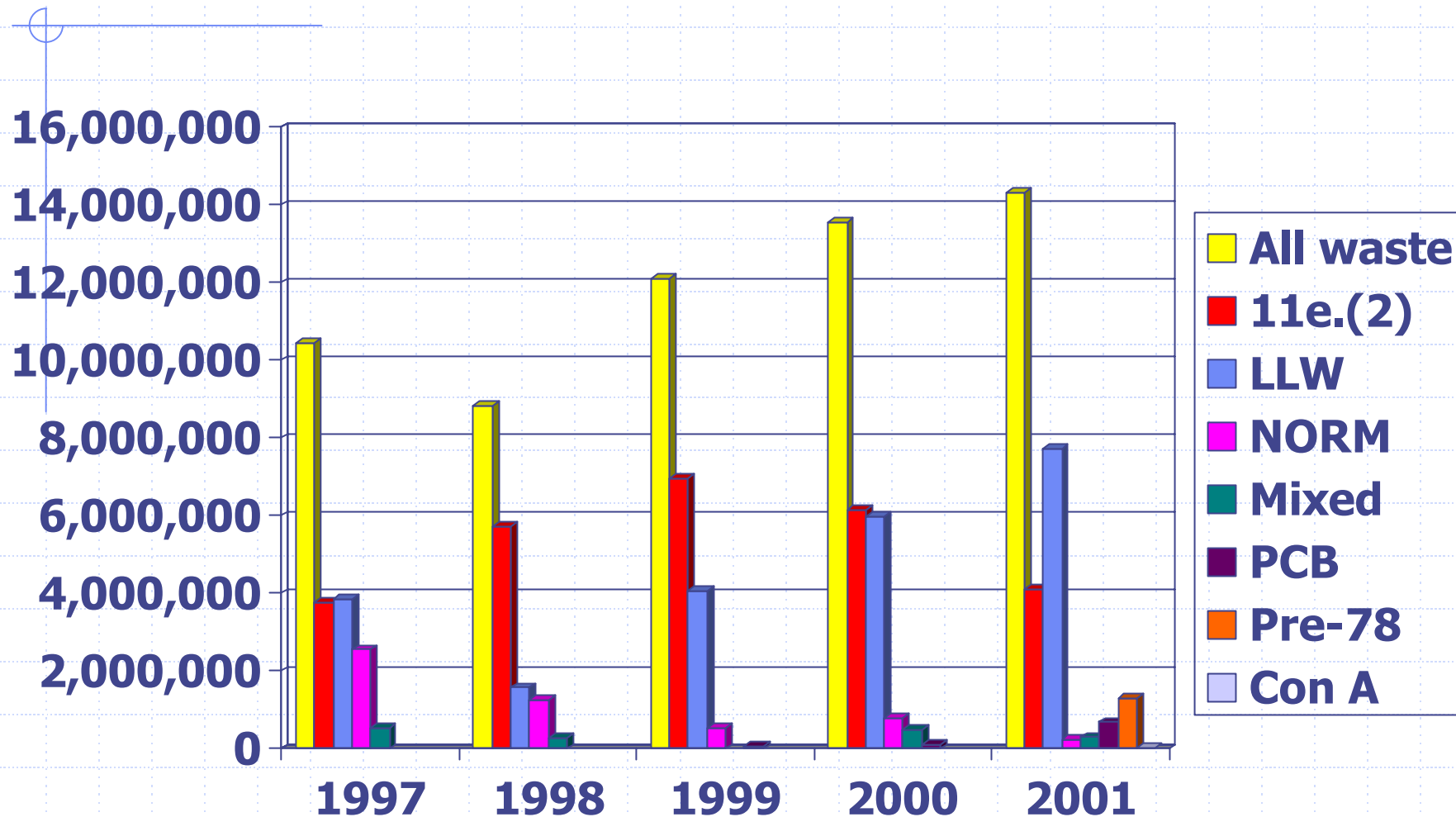
# Briefing on Low-Level Radioactive Waste – Policy Questions

## ◆ Past Commercial Waste Policy

### Considerations:

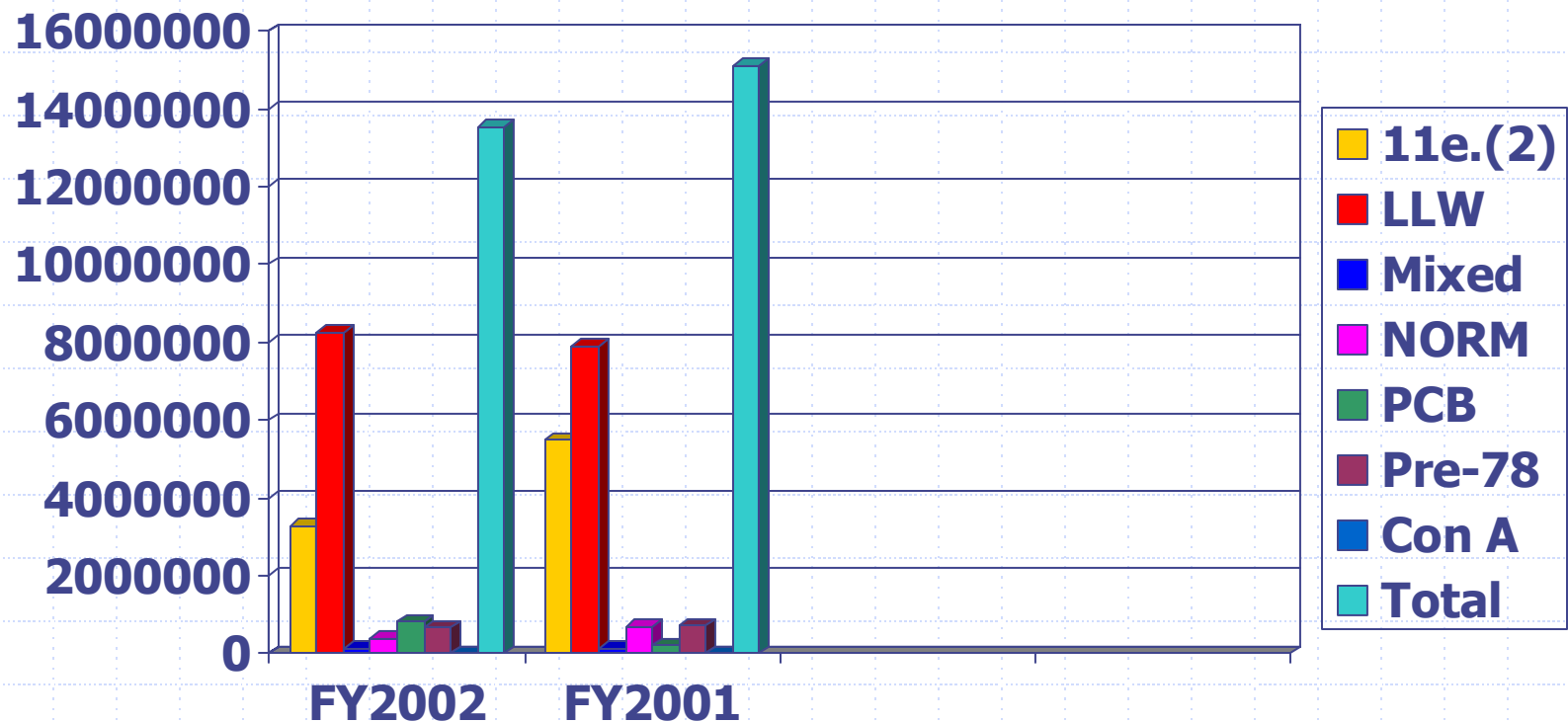
- \*Accept the responsibility of handling all or portion of nation's waste
- \*Accept waste as an economic development opportunity
- \*Encourage some waste, discourage others
- \*Discourage all waste

# Briefing on Low-Level Radioactive Waste – Envirocare CY waste volumes (cubic ft)

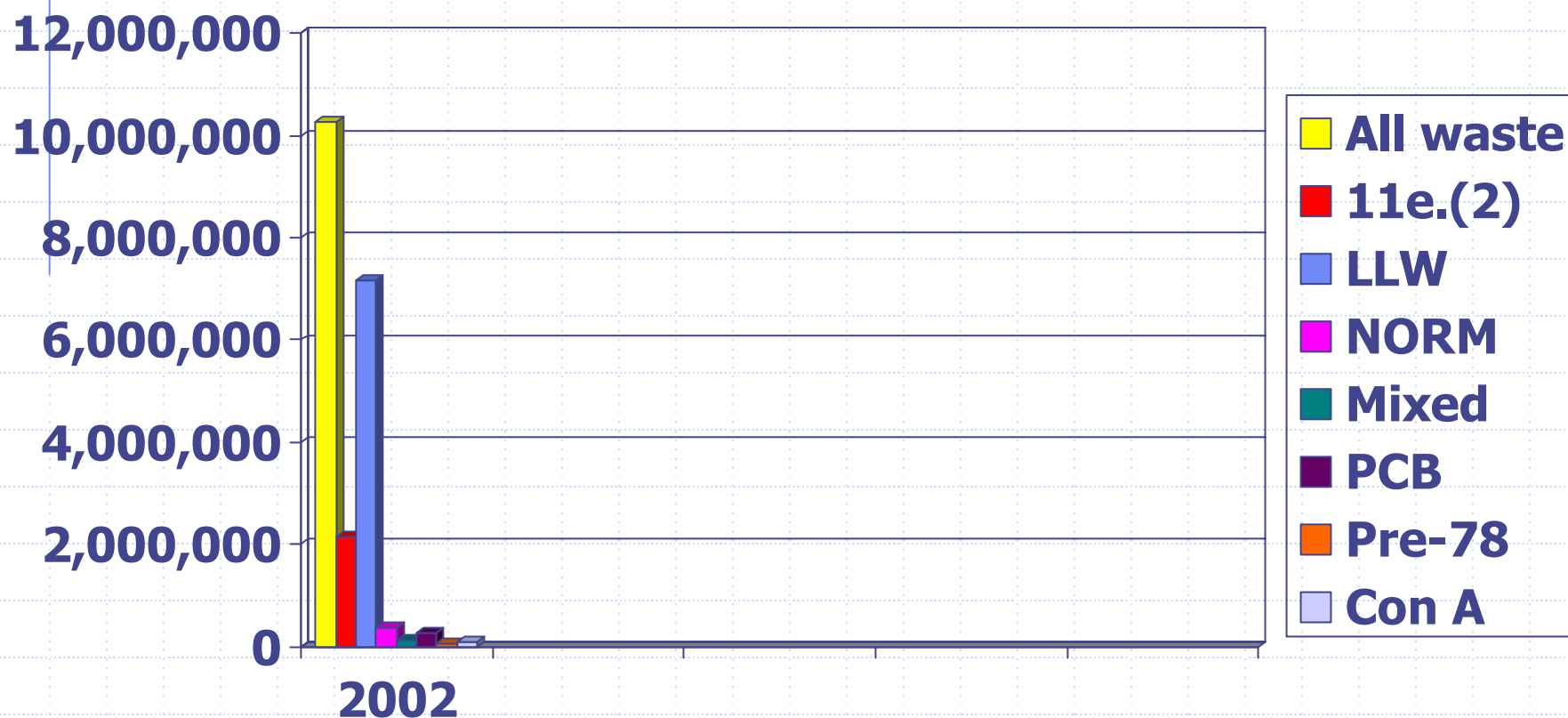




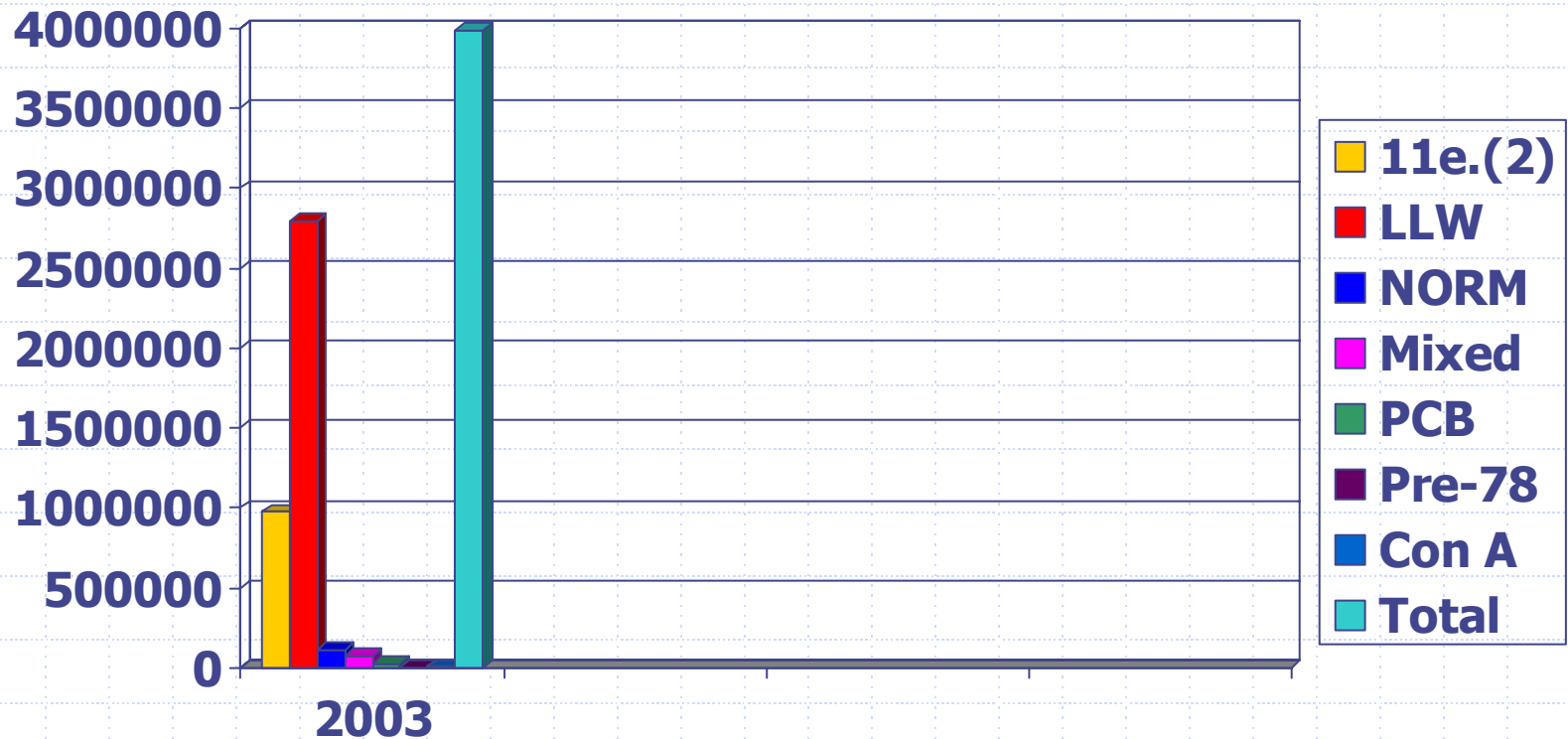
# Briefing on Low-Level Radioactive Waste – Envirocare FY waste volumes (cubic ft)



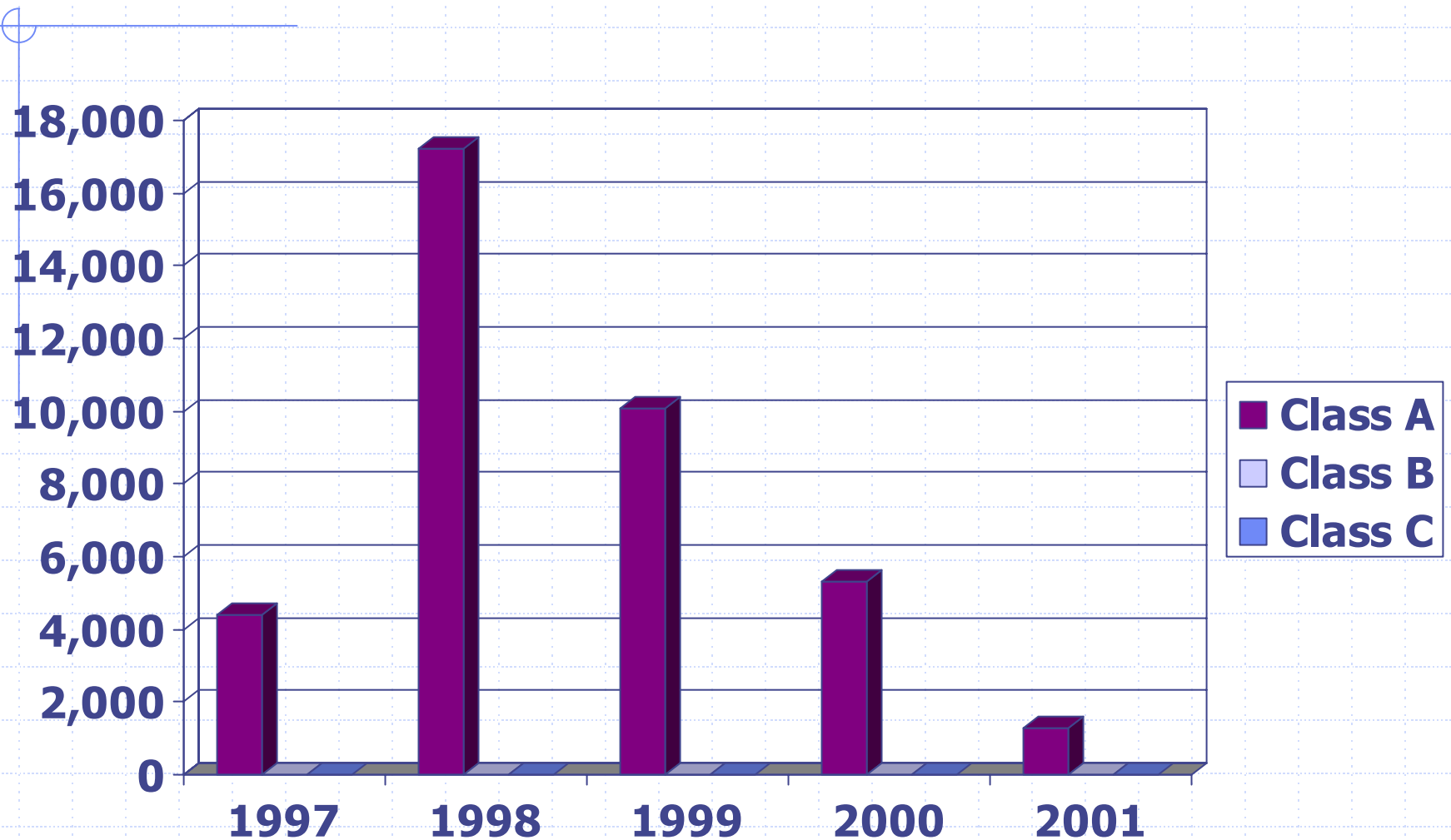
# Briefing on Low-Level Radioactive Waste – Envirocare CY waste volumes (cubic ft) –thru Sep 02



# Briefing on Low-Level Radioactive Waste – Envirocare FY waste volumes (cubic ft) –thru Sep 02

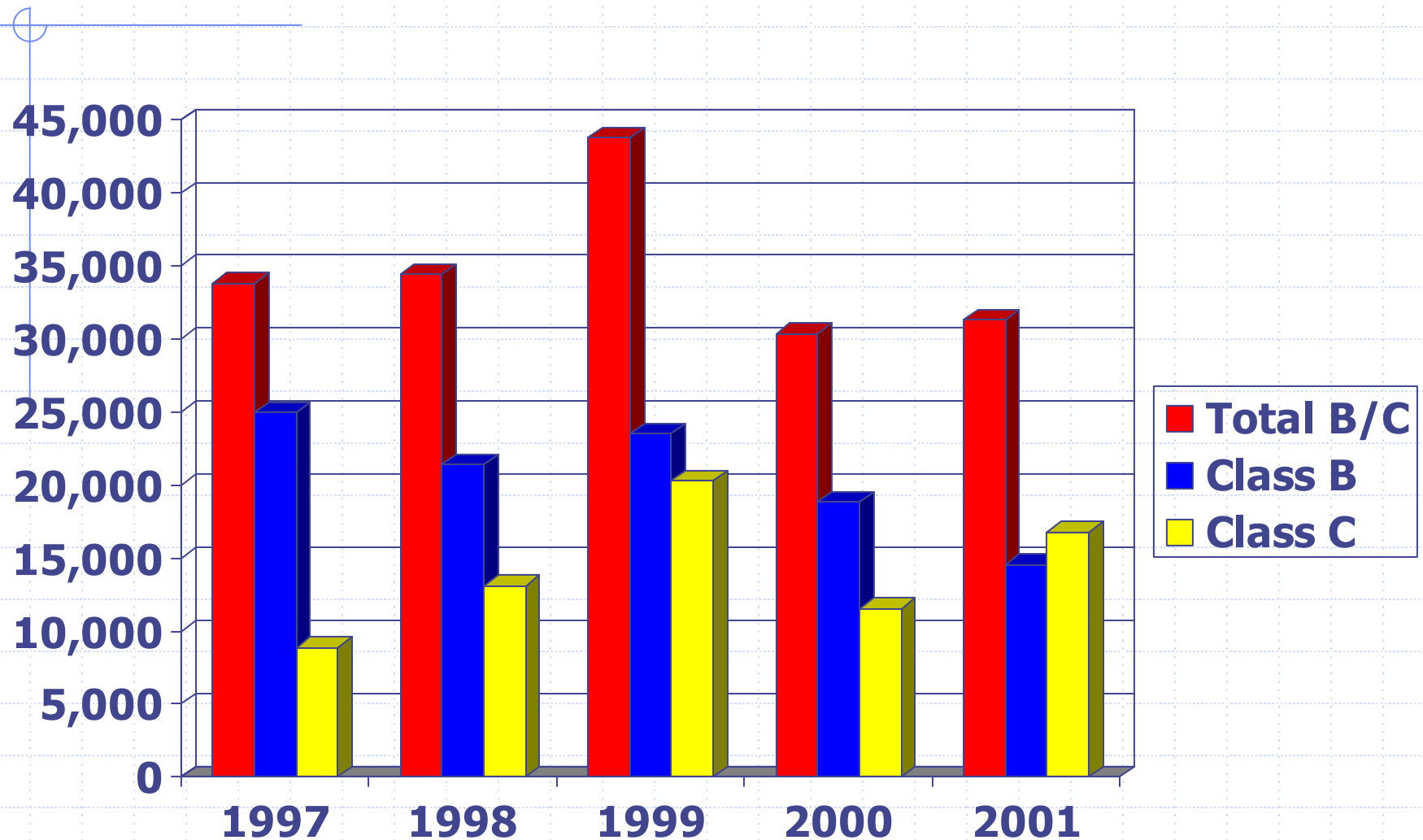


# Briefing on Low-Level Radioactive Waste – Utah LLW volumes by class (cubic ft)

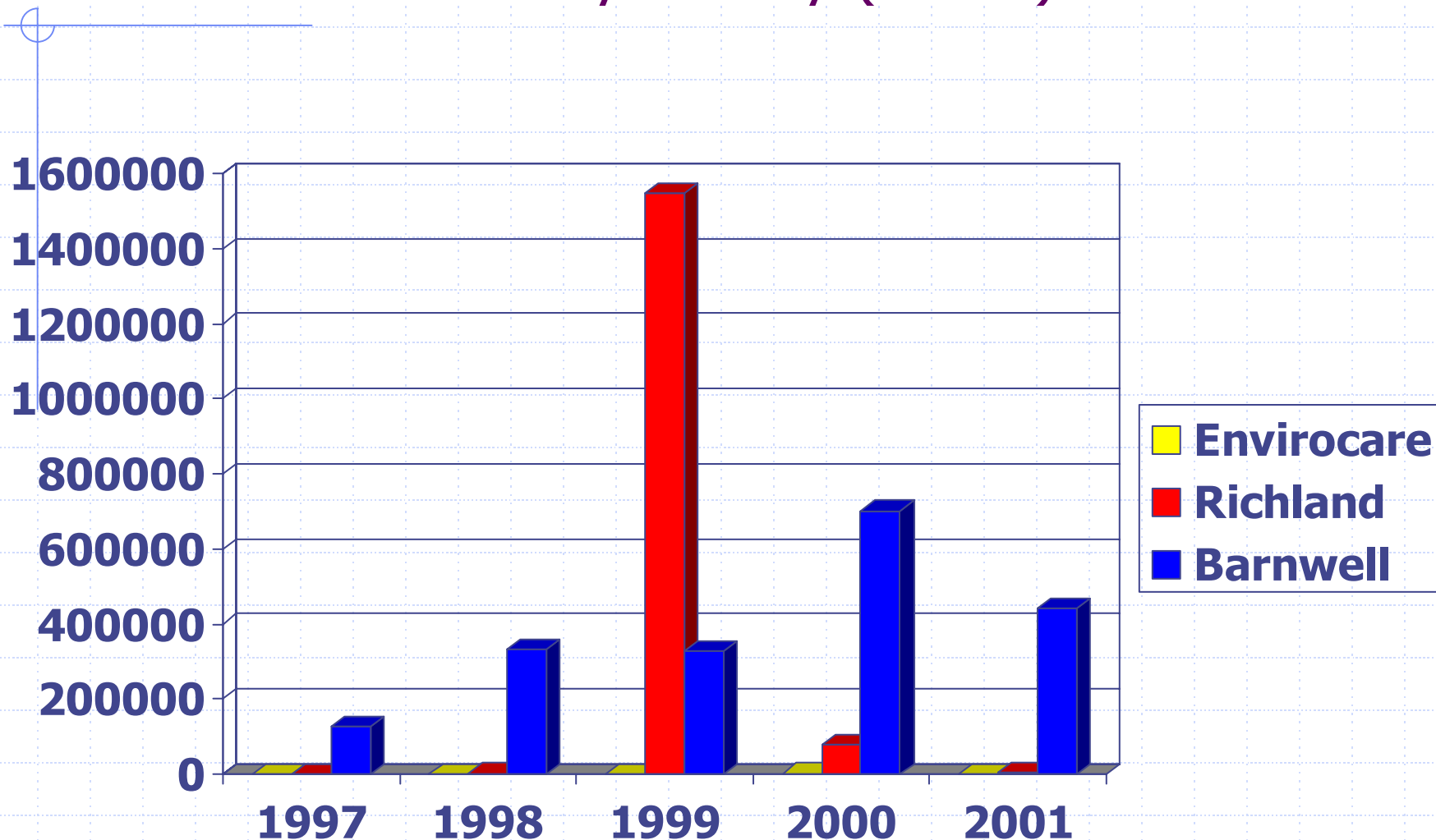




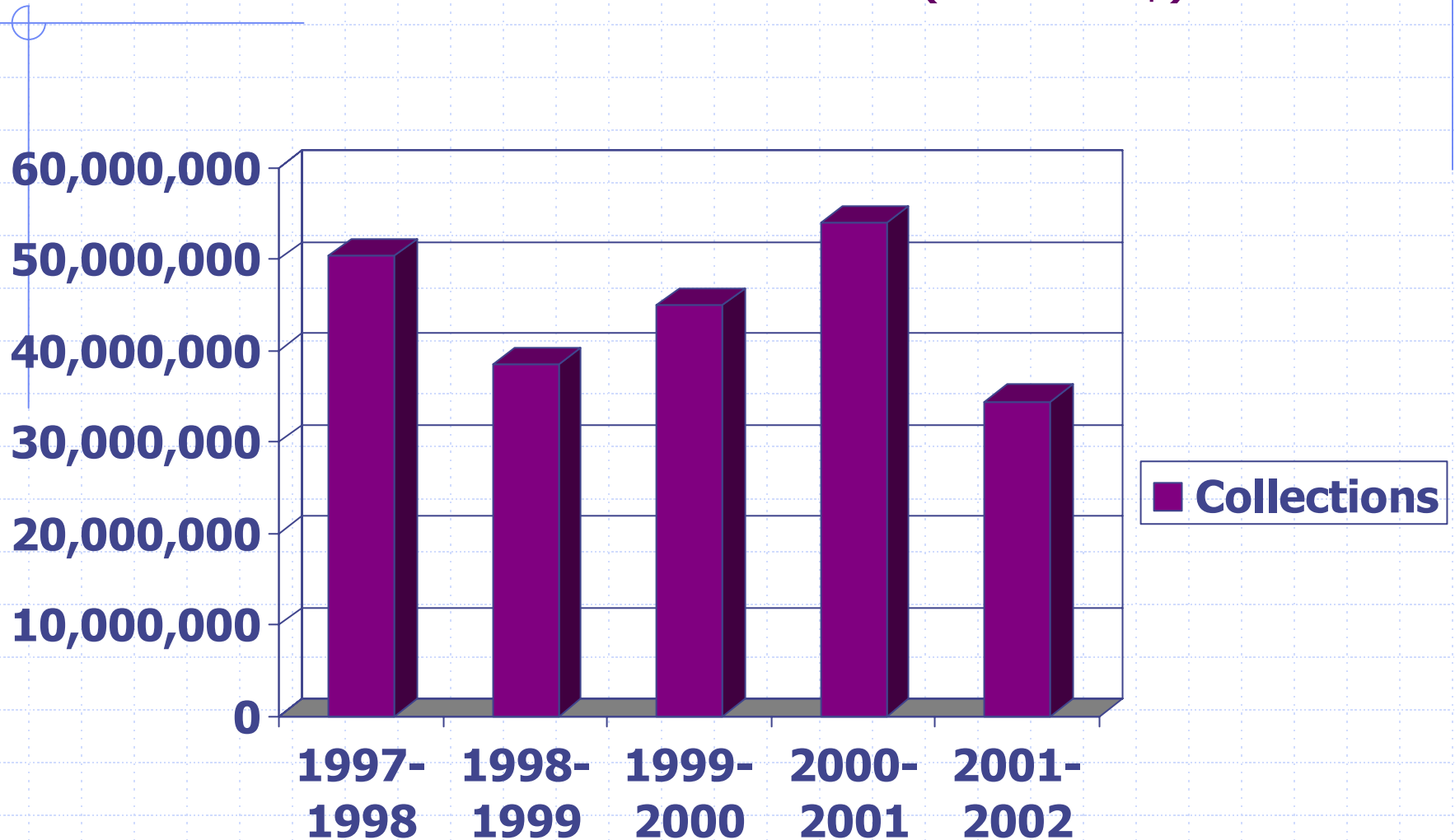
# Briefing on Low-Level Radioactive Waste – national B/C LLW volumes (cubic ft)



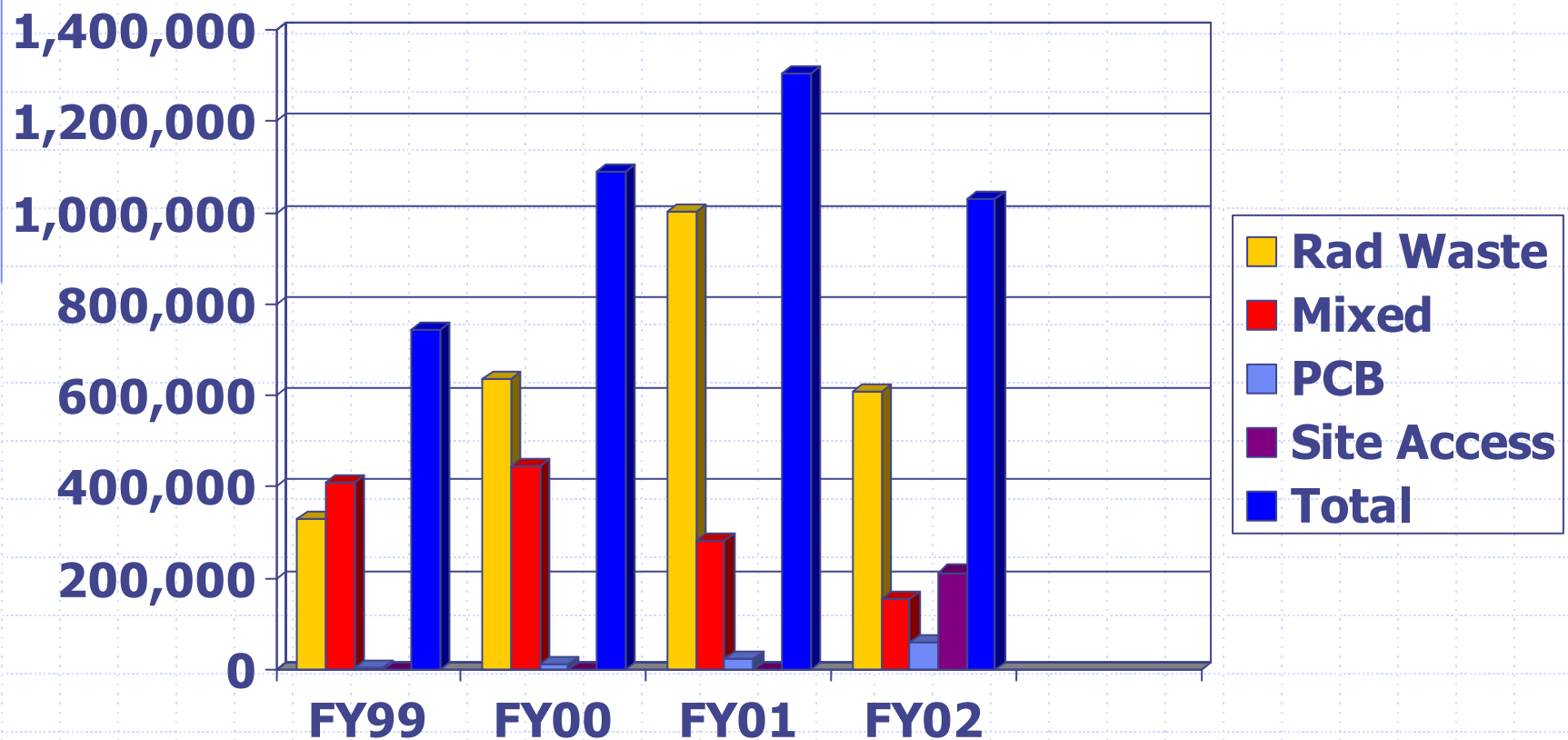
# Briefing on Low-Level Radioactive Waste – national facility activity (curies)



# Briefing on Low-Level Radioactive Waste – South Carolina FY collections (million \$)

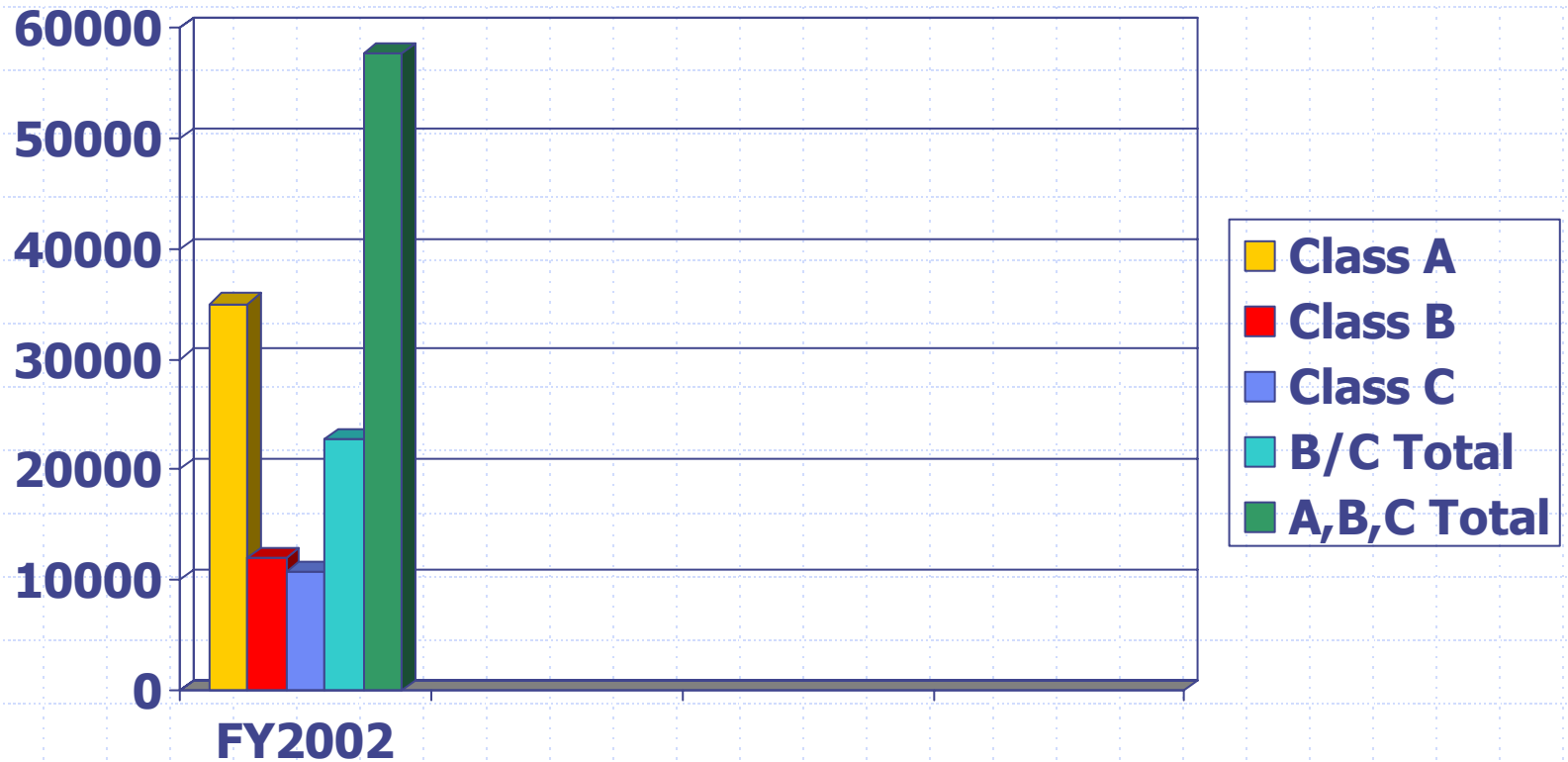


# Briefing on Low-Level Radioactive Waste – Utah FY disposal fee collections (\$)





# Briefing on Low-Level Radioactive Waste – Barnwell SC volumes – FY2002 (cubic feet)



# Briefing on Low-Level Radioactive Waste –Richland, WA volumes – CY2001 and 2000 (cubic feet)

